

REMARKS

This paper responds to the Office Action for which email notification was made on August 16, 2007.

Form PTOL-90A is in error. Form PTOL-90A incorrectly states that email notification was made on August 14, 2007. The date upon which email notification was made was and is August 16, 2007. By a separate paper, the undersigned has requested that USPTO correct Form PTOL-90A.

Form PTOL-326 is in error. Form PTOL-326 lists, at box 4, the claims supposedly pending, namely 1-7 and 9-11. The claims pending were actually 1-7 and 9-12. It is respectfully requested that Form PTOL-326 be corrected to include claim 12 in box 4.

Form PTOL-326 lists, at box 6, the claims supposedly rejected, namely 1-7 and 9-11. The claims rejected were actually 1-7 and 9-12. It is respectfully requested that Form PTOL-326 be corrected to include claim 12 in box 6.

New drawings were filed in the response of June 28, 2007. Form PTOL-326 does not, however, indicate the status of the drawings filed June 28, 2007 at box 10. It is respectfully requested that Form PTOL-326 be corrected to indicate the status of the drawings filed June 28, 2007.

Objection to drawings is in error. The Office Action states at page 2 that the drawings fail to show the isolator/dielectric layer of claim 9 and fail to show the isolator/dielectric layer of claim 10. The Examiner is respectfully reminded that Figure 5, which has been in the application since the day it was filed, shows each of these isolator/dielectric layers. In the application as filed, these were shown as layers 55 in Fig. 5. The Examiner is also respectfully reminded that the response of June 28, 2007 discussed this objection and pointed out that the offending layers were, in fact, shown in Fig. 5 from the day that the patent application was filed.

Written-description rejection untimely. The August 2007 Office Action at page 3, section 3, rejects claims 4-7 as supposedly lacking written description in the application as filed. It is noted that each of these claims 4-7 was unchanged since the application was filed. It thus appears that the rejection

should have been presented in the February 2007 Office Action. Nonetheless, in the present amendment, as discussed below, claims 4-7 have been amended to obviate the rejections.

Rejection of claim 8 inappropriate. The August 2007 Office Action at page 3, section 3, rejects claim 8. But claim 8 was canceled in the response filed June 28, 2007.

Claim 12 mischaracterized. The August 2007 Office Action at page 4, section 3, characterizes claim 12 as being limited in that “the number of columns is at least ten”. This is in error. Claim 12 is limited in that “the number of columns is at least thirteen”.

No art rejection of claims 4-7 or 9-10. The August 2007 Office Action cites no art against any of claims 4-7 and 9-10. The undersigned thus understands that the Examiner is admitting that claims 4-7 and 9-10 are allowable if recast in independent form, and if any rejections or objections as to form are overcome.

It is also noted that the February 2007 Office action admitted (page 5, section 6) that claims 4-7 would be allowable if recast in independent form.

For this reason, new claims 13-18 have been added, which claims are intended simply to present claims 4-7 and 9-10 in independent form.

Written description rejection as to numbering of layers. The August 2007 Office Action (section 3, pages 3-4) finds fault with claims 4-7 and 9-10 as supposedly lacking written description in the specification and/or supposedly lacking support in the specification.

As was explained at length in the response filed by the undersigned on June 28, 2007, there is ample support in the specification as filed for every limitation in these claims, including the limitations regarding the particular numbered layers. In particular there is ample support in Fig. 5 as filed, and in the text discussion of Fig. 5.

Careful rereading of the two Office Actions in this application, particularly the Examiner's

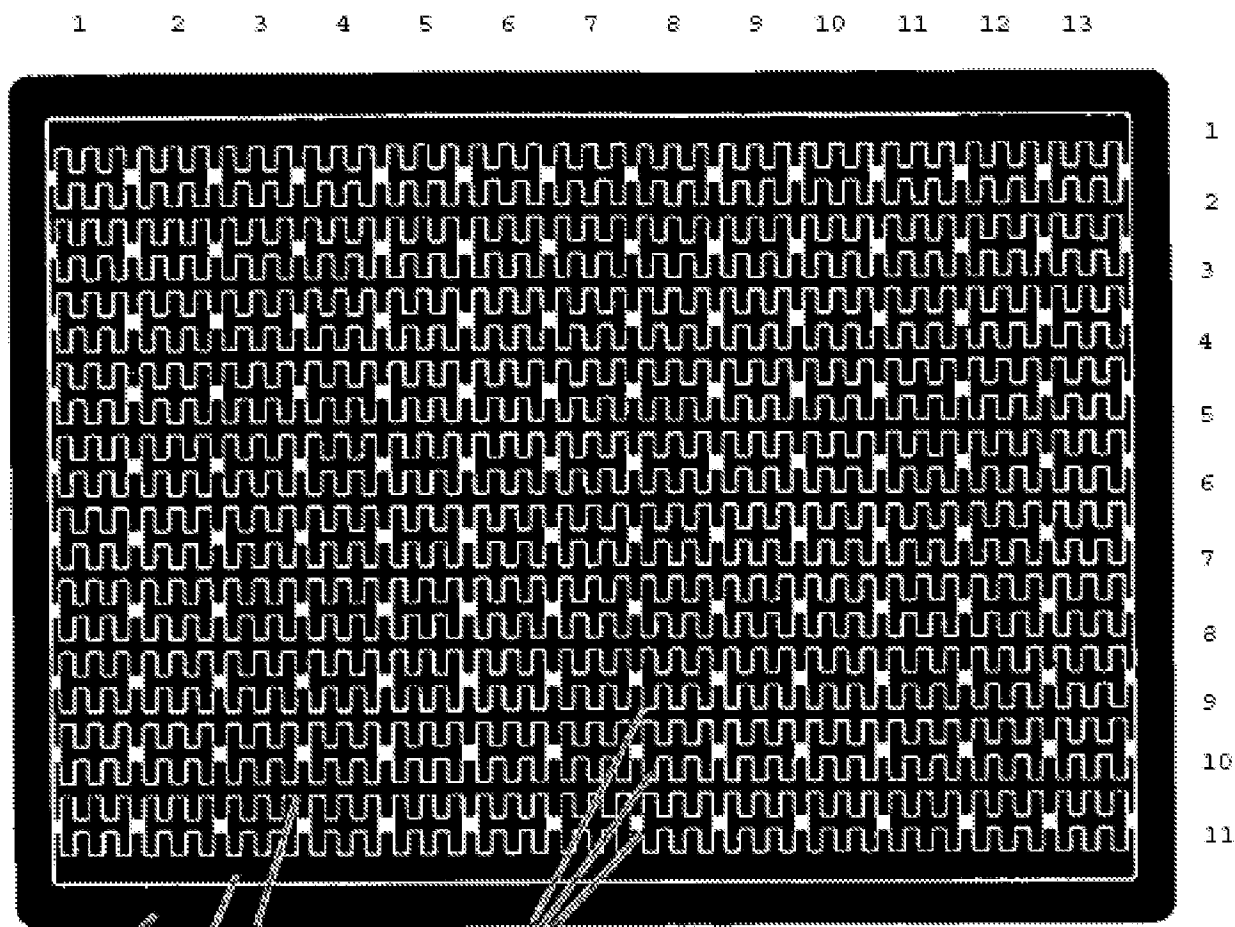
requirements in the August 2007 Office Action at section 4, page 4, leads the undersigned to speculate that the chief source of the Examiner's concerns is the use of the term "copper layers" in Figs. 1-4 and the use of the numbered "layers" in the claims as filed. It seems the Examiner feels strongly that (for example) the "second copper layer" must necessarily refer to the same structural element as the numbered "second layer" in the claims. The undersigned wrote the claims as filed, and the undersigned never intended or required that the numbered layers in the claims match the "copper layers" in Figs. 1-4. Some of the layers in the claims are not conductive at all, for example and thus could not possibly be termed "copper" and could not possibly be numbered the same way as the numbering of the copper layers in Figs. 1-4.

But the Examiner has made clear that the Examiner feels (for example) that the second numbered layer in the claims needs to be exactly the same as the "second copper layer" of Figs. 1-4. In an effort to eliminate this issue so that it cannot be raised again, the undersigned has thus renumbered all of the layers in the all of the claims, and has numbered them to match (to the extent that it is possible to do so) the numbering of the "copper layers" in Figs. 1-4.

Written description rejection as to counting the rows and columns. The August 2007 Office Action finds fault with claim 12 as supposedly lacking written description in the specification and/or supposedly lacking support in the specification. Claim 12 was:

The capacitive touch pad of claim 11 wherein the number of rows is at least ten and the number of columns is at least thirteen.

The Examiner puts forth the view that the "specification fails to disclose the number of rows is at least ten and the number of columns is at least ten [sic]". This view is in error. The application as filed disclosed precisely this, for example in Fig. 1, quoted below, where the undersigned has added counting numbers to show the at least ten rows (actually, at least eleven rows) and the at least thirteen columns.



The at least thirteen columns may also be seen in Fig. 3, defined by the vertical copper traces 31.

The recitation of the at least eleven rows and the at least thirteen columns has been added to the text of the specification in the present amendment. Such text does not, of course, constitute new matter because these limitations were disclosed in the application as filed, for example in Figs. 1 and 3. This should remove any question of there being support in the specification for the limitations of claim 12.

Rejection of claim 1 over Graham. The Examiner reiterates the Examiner's rejection of claims 1-3 and 11-12 over US Pat. No. 4475235 to Graham.

The attention of the Examiner is respectfully directed to the fact that Graham never senses which of a plurality of rows is a place where a user is touching, and Graham never senses which of a plurality of columns is a place where a user is touching. Instead, Graham attempts to infer a continuously variable

horizontal position and a continuously variable vertical position of a point of contact. There is no “row sensing” going on in Graham, and therefore there cannot be and there is not any “row-sensing electrode” in Graham. There is no “column sensing” going on in Graham, and therefore there cannot be and there is not any “column-sensing electrode” in Graham.

For Graham to render claim 1 unpatentable, it would be necessary to find a “row-by-column array of column-sensing electrodes.” The Examiner takes the position (page 5) that the electrodes 260 in Fig. 10 somehow count as a “row-by-column array of column-sensing electrodes.” But then it would also be necessary to find “conductive traces” providing “interconnection” of “each column of column-sensing electrodes”. The Examiner is invited to explain where in Fig. 10 there is a “column of column-sensing electrodes”. The Examiner has not explained where such a “column of column-sensing electrodes” may be found in Fig. 10, although the Examiner has committed to the view that the column-sensing electrodes are the electrodes 260 in Fig. 10.

Suppose for sake of discussion that the Examiner responds by saying that there are two columns of column-sensing electrodes, namely a first column composed of the electrodes 260 in areas A1 and A3, and a second column composed of the electrodes 260 in areas A2 and A4. To render claim 1 unpatentable, the Examiner would then have to explain where, in Fig. 10, one may find the “conductive traces”. For example, where is the “conductive trace” that supposedly connects the electrode 260 in area A1 with the electrode 260 in area A3? Where is the “conductive trace” that supposedly connects the electrode 260 in area A2 with the electrode 260 in area A4? The Examiner is invited to explain where these “conductive traces” are, by reference numeral or column and line number, or to withdraw the rejection.

The Examiner is respectfully reminded that one were to add the “conductive traces” of the claim to the structure of Graham, it would break the structure of Graham. The structure of Graham would not work any more. With such “conductive traces” in place, the distinct measurements for areas A1 and A3 (which provide two of the four inputs to the equations mentioned above) would get blurred because of uncontrolled charge flow between areas A1 and A3. Likewise, with such “conductive traces” in place, the distinct measurements for areas A2 and A4 (which provide the other two of the four inputs to the equations mentioned above) would get blurred because of uncontrolled charge flow between areas A2

and A4. Vertical accuracy would be degraded.

So the Examiner has not shown, and cannot show, where in Graham any such “conductive traces” interconnecting the “column-sensing electrodes” in a column. For that reason the rejection must be withdrawn. But even if the Examiner were to find such “conductive traces”, or were to arbitrarily force adding them to the structure of Graham despite their not being present in Graham, the result would be that the four-input calculations which Graham teaches would get blurred and lose vertical accuracy.

It is noted that the Examiner relies specifically upon Fig. 10 of Graham and its associated text as supposedly providing anticipation of claim 1. But a careful scrutiny of Fig. 10 and the associated text reveals that Graham does not disclose an operative structure. Indeed it appears that the disclosure of Graham is defective due to some errors or omissions by Graham.

The pertinent discussion of Fig. 10 appears at column 8, lines 5-22. This discussion says that there is shown in Fig. 10 a “generally rectangular upper plate 250”. But there is no item anywhere in Fig. 10 with a reference numeral 250. The reference does not describe anything that actually works, because upper plate 250 is not there. The Examiner is invited to explain where upper plate 250 may be found, or in the alternative to withdraw any and all rejections that depend upon the supposed disclosure of Fig. 10 in Graham.

Rejection of claim 11 over Graham. The Examiner expresses, without support, the view that “Graham teaches the number of rows is at least three and the number of columns is at least three.” Applicant's attorney disagrees with this view, and motivated by the case of *In Re Ahlert and Kruger*, 165 USPQ 418 (CCPA 1970) applicant's attorney hereby challenges this view and asks whether the Examiner can show support for this view. The Examiner is invited to state by page and line the place in Graham where supposedly the use of three or more rows and three or more columns is taught, or in the alternative, to withdraw the rejection.

The attention of the Examiner is respectfully directed to the fact that Graham never senses which of a plurality of rows is a place where a user is touching, and Graham never senses which of a plurality of columns is a place where a user is touching.

In contrast, Graham adds and subtracts four different voltage values to infer a continuously variable X position and a continuously variable Y position. See for example the equations at column 6, lines 1-14 and column 7, lines 1-18, each of which receives exactly four voltage values.

Note also that Graham expressly teaches four analog data paths, as shown in Fig. 5 and the text discussion of Fig. 5.

Note that every physical embodiment suggested by Graham (Fig. 2, Fig. 5, Fig. 6, Fig. 10) has exactly four sensing areas. Not nine sensing areas, as the Examiner suggests is somehow taught in Graham.

In this way, Graham actively teaches away from (for example) the use of three row electrodes and three column electrodes. If one were to attempt to modify the structure of Graham to use three row electrodes and three column electrodes, one would end up with ~~six~~ distinct measured voltage values. But in the equations which Graham uses, there is no place to put six voltage values. There are only places to put four voltage values.

Rejection of claim 12 over Graham. The Examiner expresses (page 6), without support, the view that from Graham:

it would have been obvious to ten number of rows and ten number of columns since it is obvious design choice since it would depend upon a designers the number of rows and columns they would like to have in the touch panel and the more number of rows and columns, the detecting position more accurate.

Applicant's attorney disagrees with this view, and motivated by the case of *In Re Ahlert and Kruger*, 165 USPQ 418 (CCPA 1970) applicant's attorney hereby challenges this view and asks whether the Examiner can show support for this view.

The attention of the Examiner is respectfully directed to the fact that Graham never senses which of a plurality of rows is a place where a user is touching, and Graham never senses which of a plurality of columns is a place where a user is touching.

In contrast, Graham adds and subtracts four different voltage values to infer a continuously variable X position and a continuously variable Y position. See for example the equations at column 6, lines 1-14 and column 7, lines 1-18, each of which receives exactly four voltage values.

Note also that Graham expressly teaches four analog data paths, as shown in Fig. 5 and the text discussion of Fig. 5.

Note that every physical embodiment suggested by Graham (Fig. 2, Fig. 5, Fig. 6, Fig. 10) has exactly four sensing areas. Not one hundred, as the Examiner suggests.

In this way, Graham actively teaches away from (for example) the use of ten row electrodes and ten column electrodes. If one were to attempt to modify the structure of Graham to use ten row electrodes and ten column electrodes, one would end up with *twenty* distinct measured voltage values. But in the equations which Graham uses, there is no place to put twenty voltage values. There are only places to put four voltage values.

Rejection of claims 1-3 over JP61-163525. The Examiner puts forth the view (page 6, section 7) that JP61-163525 (which the Examiner calls “JP Patent”) renders claims 1-3 unpatentable. The Examiner does not explain why JP Patent, cited for the first time in the August 2007 Office action, was not cited in the first Office Action. Had the Examiner cited JP Patent in the first Office Action, then the undersigned would have had an opportunity to ask the Examiner to provide a translation of the reference into English so that the present Response could take into account the actual content of JP Patent.

On page 7, the Examiner further puts forth the view that JP Patent likewise renders claims 11 and 12 unpatentable. In this rejection, the Examiner relies upon a reference in the Japanese language. The figures, taken by themselves, do not provide enough information to evaluate whether JP Patent does or does not render claims 1-3 (and perhaps claims 11-12) unpatentable.

It is requested that the Examiner provide a translation of the reference into English so that the undersigned may evaluate the reference fully. Any Office Action in which the translation is provided

must necessarily be a non-final office action, so that the undersigned will have a full opportunity to evaluate the reference and its teachings.

The Examiner takes the position that the “row-sensing electrodes” of the claim are found in JP Patent's items 4, and that the “column-sensing electrodes” of the claim are found in JP Patent's items 3. As such, the Examiner would then need to explain where in JP Patent the “conductive traces” may be found that supposedly interconnect the column-sensing electrodes 3 in each column. The Examiner is respectfully requested to explain where such “conductive traces” may be found that supposedly interconnect the column-sensing electrodes 3 in each column, or in the alternative to withdraw the rejection.

It is noted that the Examiner has not cited JP Patent against any of claims 4-7 and 9-10.

New claims 19-30 presented. The undersigned has prepared and added new claims 19-30 which are intended to more particularly set forth the claimed invention.

Claims 19-30 are limited in that they set forth an electrode having fingers extending toward both top and bottom edges of the touch pad. This arrangement of fingers is called “double-comb” in the specification at paragraph 19. The undersigned is unable to find this limitation in Graham or in JP Patent.

It is believed that claims 19-30 are patentable over the cited references.

Respectfully submitted,

/s/

Carl Oppedahl
USPTO Reg. No. 32746